15 1124

S/191/60/000/009/004/010
B013/B055

AUTHORS: Sholokhova, A. B., Freydin, A. S., Gurman, I. M., Rass, F.V.

TITLE: Use of Synthetic Resins for Bonding Asbestos Cement. Adhesives Based on Epoxy Resins

PERIODICAL: Plasticheskiye massy, 1960, No. 9, pp. 17 - 21

TEXT: The present publication treats the development of epoxy-resin base adhesives for asbestos cement. The working methods applied have been described previously. The experiments were mainly carried out using ЭД-6 (ED-6) and ЭД-5 (ED-5) epoxy resins. The epoxy resins of types ЭДФ-1 (EDF-1) and ЭДФ-3 (EDF-3) were used in some tests. The tests showed that in spite of the strength and stability of the adhesive joints (Table 1), adhesives based on ED-6 and ED-5 with polyethylene amine as hardener are not recommendable, since the high initial viscosity of these adhesives renders them uneconomic in use. In all subsequent tests therefore, the residue from hexamethylene diamine distillation was used as hardener. The following additives were tested with a view to improving certain characteristics: styrene, dibutyl phthalate, МГФ-9 (MGF-9) and

Card 1/3

ТГМ-3 (TGM-3) polyester and Kukersol' varnish (Table 2). From the technical and economic standpoint cement proved the most suitable filler. Compounds with MGF-9 and TGM-3 polyester acrylate resins (corresponding to ЭПЦ-1 (EPTs-1) and ЭПЦ-2 (EPTs-2)) were found to be the best adhesives for industrial purposes. The most characteristic properties of an adhesive (under otherwise constant conditions) are increasing bond strength (Table 3) and bonding property (Table 4). Since these factors are dependent on the temperature of the medium, tests were carried out at 18 - 20°C and 30 - 35°C. It may be seen from Table 3 that a sufficient bond strength is attained at 30°C after pressing for 6 h and at 18°C after pressing for 8 h. Maximum bond strength, however, is reached only after 24 h. Table 4 shows that the adhesive retains its bonding property for 2 - 3 h after being applied to the surface. The required bond strength was attained in as little as 1.5 h by accelerating the bonding process by moderate heating (60-100°C) (Table 5). The strength of adhesive joints was tested by natural and accelerated aging (Figs.2 and 3) which caused destruction of material but not of adhesive joints. Similar results were obtained in tests of weather resistance (Fig.4a) and resistance to water (Fig.4b). The positive results obtained with small samples were confirmed

Use of Synthetic Resins for Bonding Asbestos Cement. Adhesives Based on Epoxy Resins

S/191/60/000/009/004/010
B013/B055

at bonding of large panels. These tests were carried out under the supervision of L. M. Koval'chuk and V. V. Paturoyev. At present, bonding of asbestos-cement panels is being tested on an experimental building in Lyubertsy. M. N. Plungyanskaya is mentioned. There are 5 figures, 5 tables, and 1 Soviet reference.

Card 3/3

87879

158340

S/191/60/000/005/004/020
B004/B064

AUTHORS: Akutin, M. S., Gurman, I. M., Stal'nova, M. A.

TITLE: A Block Copolymer of Epoxy- and Dimethyl Resorcine Resins as Binding Agent for Glass-reinforced Plastics

PERIODICAL: Plasticheskiye massy, 1960, No. 5, pp. 10 - 11

TEXT: This paper discusses a study of block copolymers obtained from epoxy resins of the Э-5 (ED-5) and Э-6 (ED-6) types, and dimethyl resorcine resins. The epoxy resins were obtained from diphenylol propane and epichloro hydrine in alkaline medium, and contained 18 - 20 % of epoxy groups. Dimethyl resorcine resin was obtained by condensation of dimethyl resorcine with formaldehyde in the presence of mono- or polyvalent alcohols. A combination of 70 % epoxy resin and 30 % dimethyl resorcine showed the best properties: Brinell hardness 30 - 34 kg/mm^2, heat resistance according to Vicat 115 - 125°C, compressive strength 1300 kg/cm^2. Glass fabric was steeped with the unhardened copolymer, dried at 70 - 80°C, and then pressed. The binding agent content was (30±2)%. The resilience of the textolite obtained was 350 - 400 kg·cm/cm^2, its binding strength

Card 1/2

87879

A Block Copolymer of Epoxy- and Dimethyl Resorcine Resins as Binding Agent for Glass-reinforced Plastics

S/191/60/000/005/004/020
B004/B064

4000 - 4500 kg/cm^2, its heat resistance according to Martens 250°C. The varnish and the glass fabric steeped with it remained stable for approximately two months in unhardened state. Engineer O. S. Nikulina and Laboratory Assistant R. F. Oskina assisted. There are 1 table and 4 Soviet references.

Card 2/2

15,8210

S/191/62/000/009/006/012
B101/B144

AUTHORS: Farberova, I. I., Ratner, S. B., Lur'ye, Ye. G., Gurman, I. M., Ignatova, T. A., Nosova, L. A.

TITLE: Effect of some factors of composition and manufacture on the wear of plastics

PERIODICAL: Plasticheskiye massy, no. 9, 1962, 35 - 38

/B

TEXT: The results of wear tests on plastics using emery cloth (EC) and metal gauze (MG) are given. For MG wear tests and tests with smooth steel the equation $v = v_1 P^{\alpha}$ holds mainly for the frictional wear while the EC test characterizes the purely abrasive wear. Data of wear ($mm^3/m \cdot cm^2$ at 5 kg/cm^2) at 60°C (first figure EC test, second figure MG test, third figure -) for epoxy compounds with various fillers: ED-5 (ED-5) resin with dibutyl phthalate without filler: 48, 1.8, 3.5; with graphite: 70, 0.05, 1.8; with iron powder: 25, 0.05, 1.6. For polyvinylchloride plastics filled with asbestos, talcum or quartz an initial decrease of wear with increasing filler content is followed by an increase. The minimum of

wear is explained by the limit of compatibility between filler and polymer. For polyamides, a strong reduction of wear is already achieved with low filler addition. Data for polyamide 68 (first figure EC test, second figure MG test, $mm^3/m \cdot cm^2$): without filler 0.61, 0.0025; with 5% talcum 0.64, 0.0006; with 20% talcum 0.73, 0.0014; with 40% talcum 1.10, 0.010; with 0.5% MoS_2 0.91, 0.0003; with 5% MoS_2 1.01, 0.0006. The MG test is much more sensitive than the EC test. The EC test shows the wear in polymers to be a linear function of the product of impact strength and hardness, whereas according to the MG test the wear is a linear function of the product of tensile strength and breaking elongation. There are 3 figures and 3 tables. The English-language reference is: ASTM Standards on Plastics, ASTM D1242, 56 (1957).

Card 2/2

L 56675-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP5017850 UR/0286/65/000/011/0081/0081

678.026.294

AUTHOR: Pesin, L. M.; Potekhina, Ye. S.; Gurman, I. M.; Rabkina, A. E.; Rumova, S. M.; Tsinman, F. Ye.; Malysheva, Ye. V.

TITLE: A method for producing epoxy materials. Class 39, No. 171582

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 11, 1965, 81

TOPIC TAGS: epoxy resin, epoxy plastic

ABSTRACT: This Author's Certificate introduces: 1. A method for producing epoxy materials using a hardener based on anilinoformaldehyde condensate. A wider selection of epoxy materials is produced by using the product of the interaction between anhydroformaldehyde aniline and monoethynolamine as the hardener. 2. A modification of this method in which the hardener is the product of the interaction between anhydroformaldehyde aniline and monoethynolamine in a mixture with other epoxy resin hardeners of the amine type.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass (Scientific

Card 1/2

L 56675-65
ACCESSION NR: AP5017850

Research Institute of Plastics)

SUBMITTED: 19Mar64 ENCL: 00 SUB CODE: MT, GC

NO REF SOV: 000 OTHER: 000

Card 2/2

L 16511-66 EWT(m)/EWP(j)/T WW/RM

ACC NR: AP6001495 (A) SOURCE CODE: UR/0191/65/000/012/0015/0016

AUTHORS: Libina, S. L.; Gurman, I. M.; Mironova, N. F.; Klimkina, V. V.

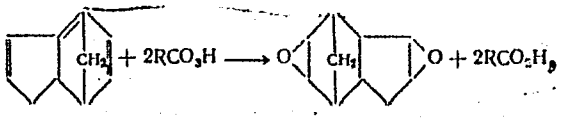
ORG: none

TITLE: Epoxide resins based on dicyclopentadiene and its ethers

SOURCE: Plasticheskiye massy, no. 12, 1965, 15-16

TOPIC TAGS: epoxide, maleic anhydride, epoxy plastic/ ED-5 dian resin

ABSTRACT: Preparation of diepoxy compounds from dicyclopentadiene (I) and its ethers and the properties of resins and plastic glass derived from them are described. Epoxidation of I, according to the equation



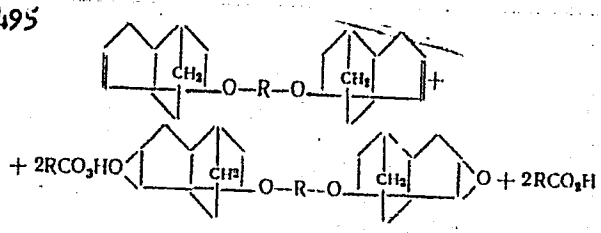
yielded the diepoxy compound in 85% yield, m.p. 183C. Ethylene and diethylene glycol ethers of I were epoxidized according to the scheme

Card 1/2

UDC: 678.644'42'5-678.762.9

L 16511-66

ACC NR: AP6001495



in 84--90% yield. Diepoxy compounds of I and its ethers were cured with anhydrides of dibasic acids, e.g., maleic anhydride. Physical properties of the products and of their mixtures with dian epoxy resins are tabulated, and thermomechanical curves are shown. Product of the mixture of epoxydicyclopentadiene with dian ED-5 in a 40:60 ratio possessed the best physical-mechanical and dielectric properties. Orig. art. has: 4 tables, 3 figures, and 3 structures.

SUB CODE: 07/ SUBM DATE: none/ OTH REF: 006

Card 2/2 SM

L 03033-67 EWP(j)/EWT(m)/T IJP(c) JM

ACC NR: AP6023065 (A) SOURCE CODE: UR/0191/66/000/004/0038/0040

AUTHOR: Antonov, S. N.; Gurman, I. M.; Kovriga, V. V.; Lushcheykin, G. A. 37 36 B

ORG: none

TITLE: Electric properties of epoxy resins of different molecular weight

SOURCE: Plasticheskiye massy, no. 4, 1966, 38-40

TOPIC TAGS: epoxy plastic, dielectric property, dielectric loss, molecular weight

ABSTRACT: The authors studied the effect of molecular weight, temperature, and time of curing on the angle of dielectric losses ($tg\,\delta$), dielectric permeability (ε), and specific electric volume resistivity (ρ_v) of epoxy resins ED-5, ED-6, and ED-L (see Table 1), obtained by condensation of diphenylolpropane and epichlorohydrin. Dielectric properties of the noncured resins improved with an increase in molecular weight and as their curves of $tg\,\delta = f(t)$ and $\varepsilon = f(t)$ shifted toward higher temperatures. The values of dielectric properties of cured resins decreased with an increase in molecular weight. The curing conditions of the epoxy resins affected $tg\,\delta$ more than ε or ρ_v. Orig. art. has: 5 fig. and 1 table.

Card 1/2 UDC: 678.643'42'5.01 : 537.226

L 03033-67

ACC NR: AP6023065

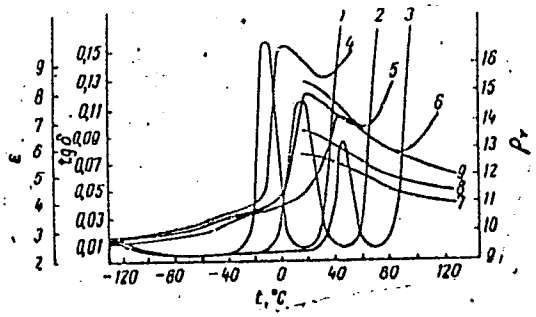


Figure 1. Dependence of tg δ (1-3), ε (4-6), and ρ_v (7-9) of the noncured resins on temperature; 1, 4, 7-ED-5 resin; 2, 5, 8-ED-6 resin; 3, 6, 9-ED-L resin

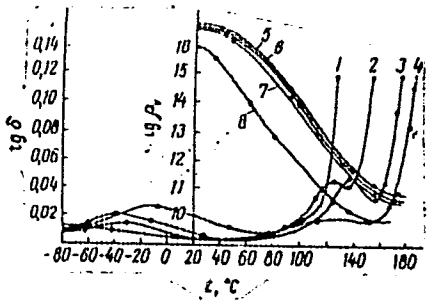


Figure 2. Dependence of tg δ and ρ_v of the cured resins on curing temperature; tg δ : 1-ED-5; 2-ED-L; 3-ED-6; 4-ED-5; ρ_v : 5-ED-5; 6-ED-6; 7-ED-L; 8-ED-5; 1 and 8 were cured by diethylenetriamine and 2, 3, 4, 5, 6, and 7 by maleic anhydride

Table 1. Characteristics of epoxy resins

Resin	Concn., %	Mol. weight	Melting temp., C
ED-5	20.6	350-400	-8-0
ED-6	16.3	450-550	8-15
ED-L	9.3	800-1000	40-60

SUB CODE: 20,11/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 002

Card 2/2

ZATULOVSKIY, B.G.; PONOMAREVA, G.V.; DZETSINA, L.V.; BONDARENKO, B.I.; GURMAN, M.M.

Further study of sporadic cases of exanthematous typhus in Kiev. Zhur.mikrobiol., epid.i immun. 32 no.12:109-112 D '61. (MIRA 15:11)

1. Iz Kiyevskogo instituta epidemiologii i mikrobiologii.
(KIEV--TYPHUS FEVER)

ACC NR: AP6029963 (A) SOURCE CODE: UR/0413/66/000/015/0148/0148

INVENTOR: Gurman, P. Ya.

ORG: none

TITLE: Hydromechanical gear box. Class 63, No. 184637 [announced by Belorussian Automobile Plant (Belorusskiy avtomobil'nyy zavod)]

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 148

TOPIC TAGS: vehicle power transmission system, transmission gear, mechanical power transmission device

ABSTRACT: An Author Certificate has been issued for a hydromechanical gear box for trucks, which consists of a torque converter, a reduction gear which can be shifted by the use of multidisk friction clutches, without interrupting the power flow, and a hydraulic brake with a feed system consisting of a double hydraulic clutch, one rotor of which is connected with the reduction gear, and the other with the output shaft of the gear box (see Fig. 1). To engage the hydraulic brake while in over-

Card 1/2 UDC: 629.113-585.22

ACC NR: AP6029963

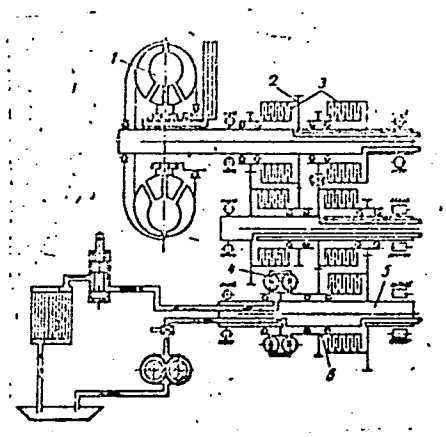


Fig. 1. Hydromechanical gear box

1 - Torque converter; 2 - reduction gear;
3 - friction clutches; 4 - hydraulic brake;
5 - output shaft; 6 - additional coupling.

drive, the hydraulic brake rotor, which is connected with the gear and pinion, has an additional rigid coupling with the drive elements of the multidisk friction clutch, which is mounted on the same shaft. Orig. art. has: 1 figure. [KT]

SUB CODE: 13/ SUBM DATE: 18May64

Card 2/2

BANKOV, L.I., inzh.; GURMAN, R.M., inzh.; PESHKOV, I.B., inzh.

Winding wires with lavsan fiber insulation. Elektrotekhnika 34 no.12: 10-13 D '63. (MIRA 17:1)

GORN, L.E.; Prinimala uchastiye GURMAN S.M.

Nephelo-colorimetric method of determination of lead in biological fluids. Vop. med. khim. 8 no.6:625-627 N-D '62. (MIRA 17:5)

1. Kliniko-biokhimicheskaya laboratoriya Instituta gigiyeny truda i professional'nykh zabolevaniy, Leningrad.

L 55938-65 ARG/EWT(d)/FBD/EWT(l)/FBO/EEC(a)/FS(v)-3/EEC(j)/EWG(s)-2/EEC(r)/EWP(m)/EWG(v)/EWP(c)/EWA(d)/EPR/EWP(h)/FCS(k) Pn-4/Pc-4/Pe-5/Pq-4/Pg-4/Ps-4/Pw-4 KW/EM

ACCESSION NR: AP5015664 UR/0293/65/003/002/0368/0373

629.191:512.34

AUTHOR: Gurman, V. I.

TITLE: Optimal trajectories of a thrust vehicle in a central forde field

SOURCE: Kosmicheskiye issledovaniya, v. 3, no. 3, 1965, 368-373

TOPIC TAGS: optimal flight trajectory, thrust vehicle optimal trajectory, Krotov method

ABSTRACT: On the basis of the general theory developed by V. F. Krotov (Avtomatika i telemekhanika, v. 23, no. 12, 1962, 1571; and v. 24, no. 5, 1963, 581), a study is made of the problem of determining the optimal modes of motion of a point with variable mass in a central force field when the final instant of time is not fixed and the energy of the point is negative ($E < 0$). As stated here, the problem is to find a sequence of modes of operation

$$(\bar{r}_s(m), \bar{v}_s(m), \bar{p}_s(m), \bar{\beta}_s(m)) \in D, \quad (1)$$

where ($\bar{r}_s(m)$ is the position vector, $\bar{v}_s(m)$ is the velocity vector, $\bar{p}_s(m)$ is the

Card 1/2

L 55938-65

ACCESSION NR: AP5015664

unit vector in the direction of thrust, $B_s(m)$ is the mass expenditure per unit time, and m is a variable mass taken as an independent variable) from the set D of allowable modes which minimize a certain performance functional. It is shown how this degenerate variational problem (classical variational methods can not be applied here) can be reduced to an equivalent nondegenerate variational problem for the system of lower-order differential equations in osculating elements in which the thrust direction vector and the true anomaly of the point on the osculating orbit are considered as control parameters. Orig. art. has: 20 formulas. [LK]

ASSOCIATION: none

SUBMITTED: 25Apr64 ENCL: 00 SUB CODE: SV

NO REF SOV: 003 OTHER: 002 ATD PRESS: 4032

Card 2/2 MB

SARKHOSH'YAN, G.N.. Prinimali uchastiye: ROZENBERG, L.I.; ZHELIKHOVSKAYA, A.I.; GURMAN, V.S.; LOBUSHEV, V.D.; BODRILIN, A.P., red.; DONSKAYA, G.D., tekhn.red.

[Technical specifications for repairing, assembling, and testing the MAZ-200 and MAZ-205] Tekhnicheskie usloviia na remont, sborku i ispytanie avtomobilei MAZ-200 i MAZ-205. Moskva, Avtotransizdat, 1959. 174 p. (MIRA 13:5)

1. Moscow. Nauchno-issledovatel'skiy institut avtomobil'nogo transporta. 2. Nachal'nik otdela remonta avtomobiley Gosudarstvennogo nauchno-issledovatel'skogo instituta avtomobil'nogo transporta (for Sarkhos'yan).
(Motortrucks--Maintenance and repair)

GURMAN, V.S., inzh.; KOLYASINSKIY, Z.S., inzh.; ZHELIKHOVSKAYA, A.I., inzh.; YEMEL'YANOV, A.Ya., inzh.; RYTCHENKO, V.I., kand.tekhn. nauk, inzh.; YEFREMOV, V.V., prof., doktor tekhn.nauk, zasluzhennyy deyatel' nauki i tekhniki, nauchnyy red.; STEPANOV, V.M., red.; GALAKTIONOVA, Ye.N., tekhn.red.; NIKOLAYEVA, L.N., tekhn.red.

[Specifications for repair, assembly, and testing of units and the ZIL-150 and ZIL-585 motortrucks during overhauling] Tekhnicheskie usloviia na remont, sborku i ispytanie agregatov i avtomobilei ZIL-150 i ZIL-585 pri kapital'nom remonte. Izd.2., perer. Moskva, Avtotransizdat, 1960. 169 p. (MIRA 13:7)

1. Moscow. Nauchno-issledovatel'skiy institut avtomobil'nogo transporta. 2. Gosudarstvennyy nauchno-issledovatel'skiy institut avtomobil'nogo transporta (for Kolyasinskiy, Zhelikhovskaya, Yemel'yanov, Gurman, Rytchenko).
(Motortrucks--Maintenance and repair)

GURMAN, V.S., inzh.; KOLYASINSKIY, Z.S., inzh.; ZHELIKHOVSKAYA, A.I., inzh.; YEMEL'YANOV, A.Ya., inzh.; RYTCHENKO, V.I., kand.tekhn. nauk; YEFREMOV, V.V., prof., doktor tekhn.nauk, zasluzhennyy deyatel' nauki, nauchnyy red.; MAL'KOVA, N.V., tekhn.red.

[Technical specifications for checking and sorting parts of the GAZ-51 motortruck and GAZ-93 dump truck in overhauling] Tekhnicheskie usloviia na kontrol'-sortirovku detalei avtomobilei GAZ-51 i GAZ-93 pri kapital'nom remonte. Moskva, Avtotransizdat, 1960. 463 p. (MIRA 13:12)

1. Moscow. Nauchno-issledovatel'skiy institut avtomobil'nogo transporta. 2. Gosudarstvennyy nauchno-issledovatel'skiy institut avtomobil'nogo transporta (for Gurman, Kolyasinskiy, Zhelikhovskaya, Yemel'yanov, Rytchenko).
(Motortrucks--Maintenance and repair)

YEFREMOV, V.V., nauchnyy red.; GURMAN, V.S., otv. za vypusk; MAL'KOVA, N.V., tekhn. red.

[Technical specifications for the inspection and sorting of parts of ZIL-150 and ZIL-585 motor vehicles during overhauling] Tekhnicheskie usloviia na kontrol'-sortirovku detalei avtomobilei ZIL-150 i ZIL-585 pri kapital'nom remonte. Moskva, Avtotransizdat, 1960. 495 p. (MIRA 14:12)

1. Moscow. Nauchno-gosudarstvennyy institut avtomobil'nogo transporta.
(Motor-vehicles--Maintenance and repair)

DONSKIY, D.I., kand.tekhn.nauk; ROZENBERG, L.I., kand.tekhn.nauk; GURMAN, V.S., starshiy inzh.; ZHELIKHOVSKAYA, A.I., starshiy inzh.; KOLYASINSKIY, Z.S., starshiy inzh.; LOBUSHEV, V.D., inzh.. Prinimali uchastiye: GLUKHOV, Yu.I., starshiy mekhanik; GEKOV, S.F., starshiy mekhanik. TIMOSHINA, V.A., red.; MAL'KOVA, N.V., tekhn.red.

[Technical specifications for the inspection and sorting of parts for the MAZ-200 and MAZ-205 motortrucks during overhauling] Tekhnicheskie usloviia na kontrol'-sortirovku detalei avtomobilei MAZ-200 i MAZ-205 pri kapital'nom remonte. Moskva, Avtotransizdat, 1960. 663 p. (MIRA 13:9)

1. Moscow. Nauchno-issledovatel'skiy institut avtomobil'nogo transporta. 2. Nachal'nik laboratorii remonta dvigateley Nauchno-issledovatel'skogo instituta avtomobil'nogo transporta (for Donskoy). 3. Nauchno-issledovatel'skiy institut avtomobil'nogo transporta (for all, except Timishina, Mal'kova). (Motortrucks--Maintenance and repair)

GRECHINSKAYA, L.T., inzh.; DONSKOY, D.I., kand. tekhn. nauk; RYTCHENKO, V.I., kand. tekhn. nauk; ROZENBERG, L.I., kand. tekhn. nauk; KOLYASINSKIY, Z.S., inzh.; GURMAN, V.S., inzh.; LOBUSHEV, V.D., inzh.; YEMEL'YANOV, A.Ya., inzh.; LESNYAKOV, F.I., red.; BODANOVA, A.P., tekhn. red.

[Technical specifications for the overhaul of the M-21 "Volga" automobile]Tekhnicheskie usloviia na kapital'nyi remont avtomobilia M-21 "Volga." Moskva, Avtotransizdat. Pt.2.[Technical specifications for checking and sorting parts of the M-21 "Volga" automobile]Tekhnicheskie usloviia na kontrol'-sortirovku detalei avtomobilia M-21 "Volga." 1962. 400 p. (MIRA 15:12)

1. Moscow. Nauchno-issledovatel'skii institut avtomobil'nogo transporta. 2. Gosudarstvennyy nauchno-issledovatel'skiy institut avtomobil'nogo transporta (for all except Lesnyakov, Bodanova).

(Automobiles--Maintenance and repair)

KOVALEV, G.N.; RAABE, G.; NALBANDYAN, R.M.; GURMAN, V.S.; SERGEYEV, G.B.

High-speed photochemical hydrobromination of ethylene and propylene at low temperatures. Dokl. AN SSSR 142 no.2:396-398 Ja '62. (MIRA 15:2)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom N.N.Semenovym.

(Ethylene)
(Propene)
(Hydrobromic acid)

GURMAN, Viktor Samuilovich; GRINBERG, P.I., red.; GORYACHKINA, R.A., tekhn. red.

[Adjustment of UAZ motor vehicles] Regulirovka avtomobilei UAZ. Moskva, Avtotransizdat, 1963. 54 p. (MIRA 16:4)

(Motor vehicles—Maintennace and repair)

SARKHOSH'YAN, G., inzh.; GURMAN, V., inzh.

Centralized delivery of repaired engines. Avt.transp. 41 no.4: 27-38 Ap '63. (MIRA 16:5)
(Shuya--Motor vehicles--Maintenance and repair)

[illegible], Viktor Semenovich; [illegible], [illegible], red.

[Hydrorivoting in the repair of automobile frames] Gidroklepka pri remonte avtomobil'nykh ram. Moskva, Izd-vo "Transport," 1964. 30 p. (MIRA 17:6)

GURMAN, V., inzh.; KOBRIN, M., kand.tekhn.nauk; [illegible], L., inzh.

Increase the durability of motor-truck frames. Avt.transp. 42 no.12:40-43 D '64. (MIRA 18:4)

TEREMYAZEV, G., inzh.; GLEBOV, V., inzh.; LUZANOV, B.; MEDNIKOV, V.; GURMAN, V., inzh.; SHARKHOV, A., inzh.; KOZLOV, N.; KULIK, B.; PETROV, N., inzh.; POTOKIN, A., master po pnevmopriboram

Exchange of experience. Avt. transp. 43 no.9:49-53 S '65. (MIRA 18:9)

1. Tashkentskiy avtobusnyy park No.2 (for Potokin).

L 63685-65 ARG/EEO-2/EWT(d)/FBD/FSS-2/EWT(l)/FBO/EWP(m)/FS(v)-3/EIC(s)-2/EWG(v)/EWP(c)/EWA(d)/EWP(h)/EED-2/FCS(k)/ETC(m) IJP(c) WW/GW/BC

ACCESSION NR: AP5013835 UR/0103/65/026/005/0782/0791

62-50

AUTHOR: Gurman, V. I. (Moscow)

TITLE: Optimal processes of a special control

SOURCE: Avtomatika i telemekhanika, v. 26, no. 5, 1965, 782-791

TOPIC TAGS: rocket flight, flight theory, flight control

ABSTRACT: A degenerate variational problem is considered for a system describable by differential equations in which at least one control (v) enters linearly. This general statement covers such specific problems as flight dynamics in which the rocket-motor thrust is regarded as a control; such problems were dealt with by A. Miele (Jet Propulsion, v. 25, no. 8, 1951) and D. F. Lawden (Astronomica Acta, v. 8, no. 12, 1962). The present article approaches the problem on the basis of (a) the sufficient conditions of absolute minimum and (b) the theory of linear partial differential equations. The essence

Card 1/2

L 63685-65
ACCESSION NR: AP5013835

of the problem is: Find a sequence $(y_S(t), u_S(t), v_S(t)) \subset D$, with which, at $S \to \infty$, the functional (1) approaches its minimum with the set D; the functional is:

$$I = \int_0^{t_1} f^0(t, y, u)\,dt + F(y_0, y_1), \qquad (1)$$

which is defined by the set D of the elements $(y(t), u(t), v(t))$, that satisfy specified conditions. Both cases with and without constraints imposed on the control v are considered. Three examples illustrate applications of the method. Orig. art. has: 3 figures and 65 formulas.

ASSOCIATION: none

SUBMITTED: 08Feb64 ENCL: 00 SUB CODE: AC, MA

NO REF SOV: 007 OTHER: 003

Card 2/2

L 2587-66 EWT(d)/EPF(n)-2/EWP(v)/EWP(k)/EWP(h)/EWP(l) IJP(c) WW/BC

ACCESSION NR: AP5019398 UR/0103/65/026/007/1169/1176

519.3:62-51

AUTHOR: Gurman, V. I. (Moscow)

TITLE: Method for investigating one class of optimal sliding conditions

SOURCE: Avtomatika i telemekhanika, v. 26, no. 7, 1965, 1169-1176

TOPIC TAGS: optimal automatic control, automatic control theory

ABSTRACT: A method of "different formalism" suggested by V. F. Krotov (Doctor's Dissertation, MAI, 1963) is further developed and generalized; it is applicable to a class of problems whose solution may be represented by optimal sliding conditions. Given is a functional $I = \int_0^{t_1} f^0(t, y, u)\,dt + F(y_0, y_1)$, defined with a set D of $(y(t), u(t), v(t))$, elements which satisfy these conditions: $y(t) = (y^1, y^2, \ldots, y^n)$, $y^1(t)$ are phase coordinates and $(u(t), v(t)) = (u^1, u^2, \ldots, u^r, v)$,

Card 1/2

L 2587-66
ACCESSION NR: AP5019398

$u^k(t), v(t)$ are controls. A sequence of elements $(\bar{y}_s(t), \bar{u}_s(t), \bar{v}_s(t)) \in D$, is found, at which the above functional approaches minimum with the set D. The problem is expanded and solved on the basis of the theory of linear partial differential equations. An optimal sliding mode of the angle of attack, in the problem of the quickest passive flight of a winged aircraft, is considered as an example. Orig. art. has: 2 figures and 47 formulas.

ASSOCIATION: none

SUBMITTED: 02Oct64 ENCL: 00 SUB CODE: IE, AC

NO REF SOV: 008 OTHER: 000

Card 2/2

L 17005-66 EWT(d)/EWP(1) IJP(c) GS/BC

ACC NR: AT6003574 SOURCE CODE: UR/0000/65/000/000/0217/0236

AUTHOR: Krotov, V. F.; Gurman, V. I.

ORG: none

TITLE: On optimal sliding modes in variational problems of flight dynamics

SOURCE: Issledovaniya po dinamike poleta (Research on flight dynamics), no. 1. Moscow, Izd-vo Mashinostroyeniye, 1965, 217-236

TOPIC TAGS: variational problem, flight mechanics, aircraft

ABSTRACT: The purpose of this article is to demonstrate the existence of optimal sliding modes in variational problems in flight dynamics in the atmosphere, in cases in which the control is the angle-of-attack of the aircraft. The study is made on the basis of a theory outlined elsewhere. In the course of the investigation certain techniques are demonstrated which can be conveniently employed in the study of sliding modes and degenerate problems in general. It is, moreover, pointed out that these modes are typical of some problems. In formulating and solving variational problems in flight dynamics, the possibility of an optimal sliding mode, regardless of whether the mode is practicably feasible or not should

Card 1/2 UDC: 629.197.005

L 17005-66
ACC NR: AT6003574

always be considered. In this case the appearance of a sliding mode indicates that the initial suppositions and the formulation of the problem are to be reviewed. The presence in the optimum condition of sliding mode segments is shown to complicate the investigation to some degree, since this mode always entails a degeneration and artificiality of the solutions, which are capable of satisfying certain necessary optimum conditions, but are not all actually optimal. In such cases, both the classical variation calculus methods and their familiar generalizations are found to be ineffective. The final solution of the problem in such cases can be achieved only with the help of more stringent necessary and sufficient conditions for the optimum, one of which is the principle of optimality used in this paper. Orig. art. has: 3 figures and 54 formulas.

SUB CODE: 01, 12 / SUBM DATE: 02Aug65 / ORIG REF: 008

Card 2/2 mjs

L 21539-66 EWT(d)/EWT(l)/EWP(m)/EWA(d)/T IJP(c) GW

ACC NR: AP6007733 SOURCE CODE: UR/0293/66/004/001/0026/0039

4-7
B

AUTHOR: Gurman, V. I.

ORG: none

TITLE: On optimum transfers between coplanar elliptic orbits in a central force field

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 1, 1966, 26-39

TOPIC TAGS: astronautics, transfer trajectory, optimum transfer trajectory, variational problem, Mayer problem

ABSTRACT: The problem of optimum transfers of a point with variable mass between given coplanar elliptic orbits in a central gravitational field is analyzed on the basis of the author's results (Kosmicheskiye issledovaniya, v. 3, no. 3, 1965, 368-373) under the assumption that the orientation of the lines of apsides is arbitrary. Equations describing the variation of osculating elements characterizing the dimensions and the form of an orbit and also the boundary conditions are written in which the focal parameter p, the eccentricity e, the true anomaly θ, and the radial and transverse components (S,T) of the direction of thrust are considered as functions of

$$u = \frac{c}{\sqrt{\mu}} \ln \frac{m_0}{m},$$

Card 1/3 UDC: 519.34:629.191

where c is the jet velocity, μ is the gravitational constant, m is the variable mass, m_0 is the initial mass, p and e are taken as phase coordinates, and e, S, and T as control parameters. As stated here, the problem is to find in the class D of modes of operation (p(u), e(u), θ(u), S(u), T(u)), which satisfy the derived equations and boundary conditions, a mode of operation ($\bar{p}$(u), $\bar{e}$(u), $\bar{\theta}$(u), $\bar{S}$(u), $\bar{T}$(u)) which minimizes a certain performance functional—a certain function $F(p_1, e_1)$ of finite phase coordinates. If the absolute minimum does not exist in the class D, the problem of constructing the minimizing sequence is considered. The solution of the formulated problem with $F \equiv \xi_1 \equiv 1 - e_1^2/p_1^2$ and the established boundary conditions is simultaneously the solution of the optimum transfer from the orbit with parameters p_0, e_0 to the orbit with parameters p_1, e_1 with the minimal characteristic velocity (with the maximum terminal value of the mass). It is indicated that the formulated problem is a variational problem of the Mayer type that is solved by applying the theory developed by V. F. Krotov [Avtomatika i telemekhanika, v. 23, no. 12, 1962, 1571; v. 29, no. 5, 1963, 581]. It is shown that when the magnitude of the thrust is limited, the obtained solutions are approximated by the elements of the minimizing sequence, each of which consists of two systems of powered transfer sections (microtransfers). Powered sections of the first system are applied in the neighborhood of pericenters and those of the second system in the neighborhood of apocenters of osculating orbits. The direction of the thrust force at the powered transfer section coincides approximately with the direction of the tangent to the orbit. When the thrust force (the instantaneous expenditure of mass) can be considered as not

L 21539-00

ACC NR: AP6007733 D

limited, then the obtained solutions can be realized by means of two-impulse transfers applied at the apsides of the orbit. Orig. art. has: 67 formulas and 9 figures. [LK]

SUB CODE: 22/ SUBM DATE: 18May65/ ORIG REF: 007/ OTH REF: 003/ ATD PRESS: 4219

Card 3/3 BLG

L 43927-66 EWT(d)/EWP(k)/T

ACC NR: AP6028329 SOURCE CODE: UR/0293/66/004/004/0499/0509

AUTHOR: Gurman, V. I.

ORG: none

TITLE: On optimality of singular regimes of rocket motion in a central field

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 4, 1966, 499-509

TOPIC TAGS: ~~optimal~~ rocket flight, ~~intermediate thrust trajectory, intermediate thrust trajectory optimality~~ rocket thrust coefficient, optimum trajectory

ABSTRACT: Optimality of intermediate thrust arcs of trajectories of rocket flight in an inverse-square-law force field is analyzed. It is pointed out that D. F. Lawden (ARS Journal, v. 31, no. 4, 1961, 566) has established the existence of intermediate thrust arcs satisfying the Euler-Legrange equations and the Weierstrass necessary optimality condition. However, the question of whether or not such arcs are optimal has been left unsolved because these are singular extremals and classical sufficient optimality conditions are not satisfied on such extremals. The present article is dedicated to the solution of this degenerate problem on the basis of the author's results (Kosmicheskiye issledovaniya, v. 3, no. 3, 1965, 369) and certain particular methods for studying such problems (Avtomatika i telemekhanika, v. 24, no. 5, 1965, 782). The general idea of these methods consists in transforming the degenerate problem to a new, lower-order problem in which one phase coordinate of the initial problem

Card 1/2 UDC: 629.191

L 43923-66

ACC NR: AP6028329

plays the role of a control. Results from analysis of the necessary optimality conditions formulated in the Pontryagin maximum principle and of the second variation of the performance functional show that in the case of a two-dimensional problem with an arbitrary time, the intermediate thrust regimes are not optimal. The derived conclusions do not exclude the possibility of existence of optimal intermediate thrust regimes in two-dimensional problems with a fixed time or in three-dimensional problems. Orig. art. has: 4 figures and 73 formulas. [LK]

SUB CODE: 19/ SUBM DATE: 27Aug65/ ORIG REF: 008/ OTH REF: 006/ ATD PRESS: 5060

Card 2/2

ACC NR: AP7000544 SOURCE CODE: UR/0293/66/004/006/0815/0822

AUTHOR: Gurman, V. I.

ORG: none

TITLE: The structure of the optimal regimes of motion of rockets in a homogeneous gravitation field

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 6, 1966, 815-822

TOPIC TAGS: motion equation, differential equation, gravitation field, rocket thrust, vector function, continuous function, algorithm, thrust control

ABSTRACT: The general variational problem of rocket dynamics in a homogeneous gravitation field in free space is examined. The motion of a point of variable mass in free space in a homogeneous gravitation field is defined by:

$$r' = -\frac{1}{\beta}v,$$

$$v' = -\frac{c}{m}p - \frac{1}{\beta}g,$$

$$t' = -\frac{1}{\beta},$$

where r and v are the radius vector and velocity vector of the point in an inertial

Card 1/2 UDC: 519.34:629.191

ACC NR: AP7000544

frame of reference; g the acceleration of gravity; p the unit thrust vector; t time; m mass; β the mass consumption per unit time; and c the escape velocity. The mass m is taken as the independent variable. The problem is reduced to the so-called "problem two" for a system of differential equations in which the role of controls is played formally by the unit thrust vector and time. It is found that, in the general case, the optimal regime consists of two active intervals of maximum thrust separated by a passive interval. In particular cases, one of the intervals can be absent. The nonoptimal condition of pulse regimes of special control is shown. All of the results can be extended without changes to the case when:

$$r' = -\frac{1}{\beta}(v + f_1(t)), \quad v' = -\frac{c}{m}p - \frac{1}{\beta}f_2(t), \quad t' = -\frac{1}{\beta},$$

where $f_1(t)$, $f_2(t)$ are piecewise continuous vector functions. The author thanks V. F. Krotov, V. A. Yegorov, and I. V. Ioslovich for their discussion. Orig. art. has: 33 formulas and 2 graphs.

SUB CODE: 20/ SUBM DATE: 060ct65/ ORIG REF: 009/ OTH REF: 003

Card 2/2

05813
SOV/76-33-10-11/45

5(4)

AUTHORS: Gurman, V. S., Chaykin, A. M.

TITLE: On the Role Played by the Surface in the Thermal Reaction of Hydrogen With Chlorine

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 10, pp 2178-2182 (USSR)

ABSTRACT: In a paper by A. M. Markevich "The Role Played by the Surface in the Thermal Reaction of Hydrogen With Chlorine" ("Rol' poverkhnosti v termicheskoy reaktsii vodoroda s khlorom") (Ref 1) it was shown by the calorimetric method according to A. A. Koval'skiy (Ref 2) that this reaction proceeded homogeneously in the gaseous phase and represents a chain reaction whose chains are formed at the surface of the reaction vessel. Chapman and Cowling (Ref 3) demonstrated that in gas mixtures with greatly differing heat conductivity of the components no linear dependence of the coefficient of heat conductivity in the mixture on the molar part of the components may be assumed as was done by Markevich in the above-mentioned determinations. In the present case more exact values of heat conductivity coefficients are used, and examinations are made as to whether in the experiments made by Markevich hydrogen oxidation initiat-

Card 1/3

On the Role Played by the Surface in the Thermal Reaction of Hydrogen With Chlorine

ed by chlorine takes place. Experiments are made as to how a change of the specific surface of the reaction vessel (S/V) effects the rate of the reaction inhibited or not inhibited by oxygen. The investigations were made in a device and by methods corresponding to those by A. M. Markevich. All experiments were made under static conditions with an equimolar chlorine-hydrogen mixture at 286 C and a pressure of 115mm Hg with and without oxygen addition. The reaction rate (Table 1) was determined graphically from the kinetic reaction curve. The heat conductivity coefficient of the mixture was determined from the values of the components by a method by A. M. Chaykin and A. M. Markevich (Ref 4) (Table 2, Fig 2). It was found to be much lower compared to those mentioned above. Data on the reaction kinetics of chlorine with hydrogen and 15% of oxygen (Fig 1) as well as the calorimetric experimental and computation results are given. Results are in good agreement with those obtained by Markevich. However, Q is not equal to 1 as was assumed by Markevich, but 0.5!, which may be explained by the fact that the chains are interrupted not only at the surface but also inside the vessel. This was confirmed by A. Trifonov's experiments (Ref 6). The observations described

05813
SOV/76-33-10-11/45

On the Role Played by the Surface in the Thermal Reaction of Hydrogen With Chlorine

here may be considered an additional proof of the reaction mechanism suggested by Markevich. There are 2 figures, 3 tables, and 6 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: March 12, 1958

Card 3/3

GURMAN, V.S.; LISHNEVSKIY, V.A.; SERGEYEV, G.B.

Interaction between molecular and atomic chlorine, and metallic silver. Izv.vys.ucheb.zav.; khim.i khim.tekh. 3 no.1:29-32 F '60. (MIRA 13:5)

1. Kafedra khimicheskoy kinetiki Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova.
(Chlorine) (Silver)

84639

S/076/60/034/010/022/022
B015/B064

11.1310

AUTHORS: Gurman, V. S., Yakovenko, Ye. I., Papisova, V. I.

TITLE: Influence of the Phase Transitions in the Matrix Upon the Annihilation of the Radicals Formed in the Photolysis of a Frozen 25% H_2O_2 Solution in Water

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 10, p. 2372

TEXT: In the course of investigations of kinetic laws of the concentration and recombination of radicals, forming in water in a photolysis by ultraviolet light of a 25% frozen H_2O_2 solution, by the method of the electron paramagnetic resonance the authors observed that the processes of the phase transformations in the matrix influence the recombination of the radicals. Allen and Stoyn (Ref. 1) have already assumed the possibility of such an influence. The spectrum of the electron paramagnetic resonance of the radicals, in samples irradiated at - 196°C, changes somewhat at a temperature increase to - 130°C, and in the range of from - 125°C to - 120°C the radicals vanish completely. When the irradiation temperature of the samples is over - 115°C, the radicals form again and remain stable

Card 1/2

Influence of the Phase Transitions in the Matrix Upon the Annihilation of the Radicals Formed in the Photolysis of a Frozen 25% H_2O_2 Solution in Water

S/076/60/034/010/022/022
B015/B064

until - 53°C are reached to be then rapidly annihilated again. The thermograms of the non-irradiated samples show that at - 116°C an exothermic phase transition begins, and at - 53°C an endothermic transition. According to Chormley (Ref. 2), the transition from the amorphous to the crystalline ice takes place at - 120°C. N. Ye. Mironov and A. G. Bergman (Ref. 3) observed the formation of a eutectic in the system H_2O_2 - H_2O at - 52.5°C. Thus, it was shown that under the conditions of the present experiments, the phase transitions in the matrix cause a rapid annihilation of the frozen radicals.

[Abstracter's note: This is a summarized translation]

There are 1 figure and 3 references: 1 Soviet and 2 British.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: April 20, 1960

GRECHINSKAYA, L.T.; GURMAN, V.S., starshiy inzhener; BELOTSERKOVSKAYA, S.I., red.; GALAKTIONOVA, Ye.N., tekhn. red.

[Improving the quality of the repair of cardan shafts of ZIL motortrucks] Uluchshenie kachestva remonta kardannykh valov avtomobilei ZIL. Moskva, Avtotransizdat, 1963. 72 p. (MIRA 16:7)

1. Nachal'nik laboratorii Nauchno-issledovatel'skogo instituta avtomobil'nogo transporta (for Grechinskaya; Gurman).
(Motortrucks—Maintenance and repair)

GURMAN, Viktor Samuilovich; SARKHOSH'YAN, Gurgen Nikitovich; BUMSHTEYN, S.I., red.

[ZAS-965 "Zaporozhets" automobile; design, operation, maintenance and repair] Avtomobil' ZAS-965 "Zaporozhets"; ustroistvo, upravlenie, tekhnicheskoe obsluzhivanie i remont. Moskva, "Transport," 1964. 210 p. (MIRA 17:5)

KHAL'FAN, Yuriy Arkad'yevich; GURMAN, Viktor Samuilovich; YABLOKOV, V.I., red.

[Repair of the "Moskvich" automobile (models 407 and 403)] Remont avtomobilei "Moskvich" (modelei 407 i 403). Izd.2., ispr. i dop. Moskva, Transport, 1964. 309 p. (MIRA 17:5)

GURMANN, E.

FISCHER, J.; GURMANN, E.

A case of heterotopia of undifferentiated nervous tissue by way of subarachnoidal implantation. Acta radiol.cancer.bohem. 4 no.5-6: 171-180 30 D '49. (CLML 19:3)

1. Institute of Research on Nervous System (Prof. V. Haskovec).

GURMAZA, A. M.

USSR/Biology - Plant physiology

Card 1/1 : Pub. 22 - 43/48

Authors : Gurmaza, A. M.

Title : Effect of soil temperature on the vitamin C content of potato tubers

Periodical : Dok. AN SSSR 97/5, 923-926, August 11, 1954

Abstract : Data, showing the negative effect of increased soil temperature on the content of ascorbic acid (vitamin C) in potato tubers, are presented. Five USSR references (1938-1951). Tables.

Institution : Forest Institute, Kiev

Presented by : Academician A. L. Kursanov, May 25, 1954

VALLANDER, S.V.; GURMUZOVA, E.A.; FILIPPOV, B.V.

Integral kinetic equations in the case of an arbitrary conservative field of external mass forces. Vest. LGU 17 no.13:87-89 '62. (MIRA 15:7)

(Integral equations)

VALLANDER, S.V.; GURMUZOVA, E.A.; FILIPPOV, B.V.

Integral kinetic equations for an arbitrary conservative field of external mass forces. Aerodin. razrezh. gaz. no.1:64-66 '63. (MIRA 17:3)

L 42453-65 EWP(m)/EWT(1)/EWT(m)/FCS(k) Pd-1

ACCESSION NR: AT5009613 UR/3034/65/000/002/0239/0252

AUTHOR: Gurmuzova, E. A.

TITLE: 31-moment distribution function approximation for a mixture of gases with rotational and vibrational degrees of freedom

SOURCE: Leningrad. Universitet. Nauchno-issledovatel'skiy institut matematiki i mekhaniki. Aerodinamika razrezhennykh gazov, no. 2, 1965, 239-252

TOPIC TAGS: kinetic moment equation, internal freedom, viscous diatomic gas mixture, translational distribution function, rotational distribution function, nonequilibrated vibration, vibrational relaxation, two temperature system, gas distribution function

ABSTRACT: A mixture of viscous diatomic gases is being investigated for the case of molecules with translational, rotational, and vibrational degrees of freedom. The translational and rotational degrees are treated classically, and the vibrational ones quantum-mechanically. The distribution functions are represented, using the moment method for the solution of the kinetic equations, and the operation is carried out through the first 31 moments of physical significance. Equations from which one

Card 1/2

can find these moments are listed. These results are then utilized for the closed formulation of the oscillatory relaxation problem within the mixture of viscous gas molecules which may be idealized as some kind of linear oscillators. The translational and rotational degrees of freedom are assumed to have near-equilibrium distributions equal for all vibrational levels, the vibrational levels exhibit a nonequilibrium distribution, while all electronic degrees of freedom are frozen. The energy exchange between the translational, rotational (active), and vibrational degrees of freedom is very weak and, consequently, one can operate with two temperatures, one of which characterizes the energy of the translational and rotational degrees of freedom while the other characterizes the vibrational states. Since the vibrational degrees of freedom are quite far from equilibrium, the final results show that the system of moments contains the complete system of balance equations for the determination of the number of particles present at each vibrational level. Consequently, the extensive study of such a system of relaxation equations is carried out in a subsequent paper. Orig. art. has: 80 formulas.

CLARK, ...; [illegible] T.

"Reactions of Aliphatic Nitro Compounds. XI. A New Derivative of Tetrahydroxazine with Nitroethane, Formaldehyde, and Benzylamine", P. 175, (ROCZNIKI CHEMII, Vol. 28, No. 2, 1954, Warsaw, Poland)

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 4, No.3, March 1955, Uncl.

Synthesis and degradation of some derivatives of tetrahydro-1,3-oxazine. D. Gurne and T. Urbański (Polish Acad. Sci., Warsaw). *Bull. acad. polon. sci., Classe III*, 3, 175–8(1955)(in English); cf. *C.A.* 42, 1755b.—RCH_2NO_2 with CH_2O and $PhCH_2NH_2$ gave the following *5-nitro-5-alkyl-3-benzyltetrahydro-1,3-oxazines* (I) (alkyl and m.p. given): *Me* (II), 66–8°; *Et* (III), 68–70°; *Pr* (IV), 46–8°. I(R = CH_2OH) (V), m. 140–2° (*C.A.* 49, 8820*h*), with NaOMe gave I (R = H) (VI), m. 44–6°. I heated 5 hrs. with concd. HCl under ultraviolet light or preferably with 1% HCl-EtOH gave the following *$HOCH_2C(NO_2)RNHCH_2Ph.HCl$* (VII) (R and m.p. given): *Me*, 102–4° (*N,O*-di-Bz deriv., m. 112–14°); *Et*, 150–2° (*N,O*-di-Bz deriv., m. 105–7°); *Pr*, 136–8° (*N,O*-di-Bz deriv., m. 90–2°); *$HOCH_2$* 177° (decomps.) (*N,O,O-tri-Ac deriv.*, m. 98–100°); *H*, 150° (decomp.). VII warmed with CH_2O gave I. VII with MeONa gave the Na salts which with CO_2 gave the following *$O_2NCHRCH_2NHCH_2Ph$* (R, m.p. of HCl salt, and m.p. of *N*-tosyl deriv. given): *Me*, 148–50°, 82–4°; *Et*, 150–1°, 88–9°; *Pr*, 152–4°, 110–12°; *H*, 147° (decomp.). — (*N-Ac deriv.*, m. 193–5°). The structures were established by the analytical results, by formation of oily *N*-nitroso compds. which warmed with HCl gave the amines, and through the Bz, Ac, and tosyl derivs. J. E. A.

GURNE, D

Anti-tubercular properties of some derivatives of 1 : 3-benzoxazine. T. Urbański, D. Gürne, Z. Eckstein, and S. Stopek (*Bull. Acad. polon. Sci.*, III, 1955, **3**, 397—399).—A number of benz-1 : 3-oxazine derivatives were prepared and shown to be bacteriostatic. The bacteriostatic concentrations of some of the compounds *in vitro* against saprophytic *Mycobacteria* are given, the 6-bromo-3-hexyl- and -3-benzyl-3 : 4-dihydro-deriv. being very effective although they have LD_{50} 3 g./kg. per os. R. J. MAGEE.

CH (3)

URBANSKI, Tadeusz; MALINOWSKI, Stanislaw; SKOWRONSKA-SHRAFINOWA, Barbara; CHECHELSKA, Bozenna; DABROWSKA, Halina; FALECKI, Jerzy; GURNE, Daniela; HALSKI, Leszek; SLOPEK, Stefan; KAMIENSKA, Irena; VENULET, Jan; JAKIMOWSKA, Krystyna; URBANSKA, Alicja

Search for new antituberculous agents. Gruzlica 22 no.10:681-690 Oct 54.

1. Z Oddzialu Syntezy Lekow Instytutu Gruzlicy; kierownik prof. dr. T.Urbanski, dyrektor: prof. dr. J.Misiewicz.

(CHEMOTHERAPY, in various diseases
tuberc., progr.)
(TUBERCULOSIS, therapy
antituberc. agents, research)

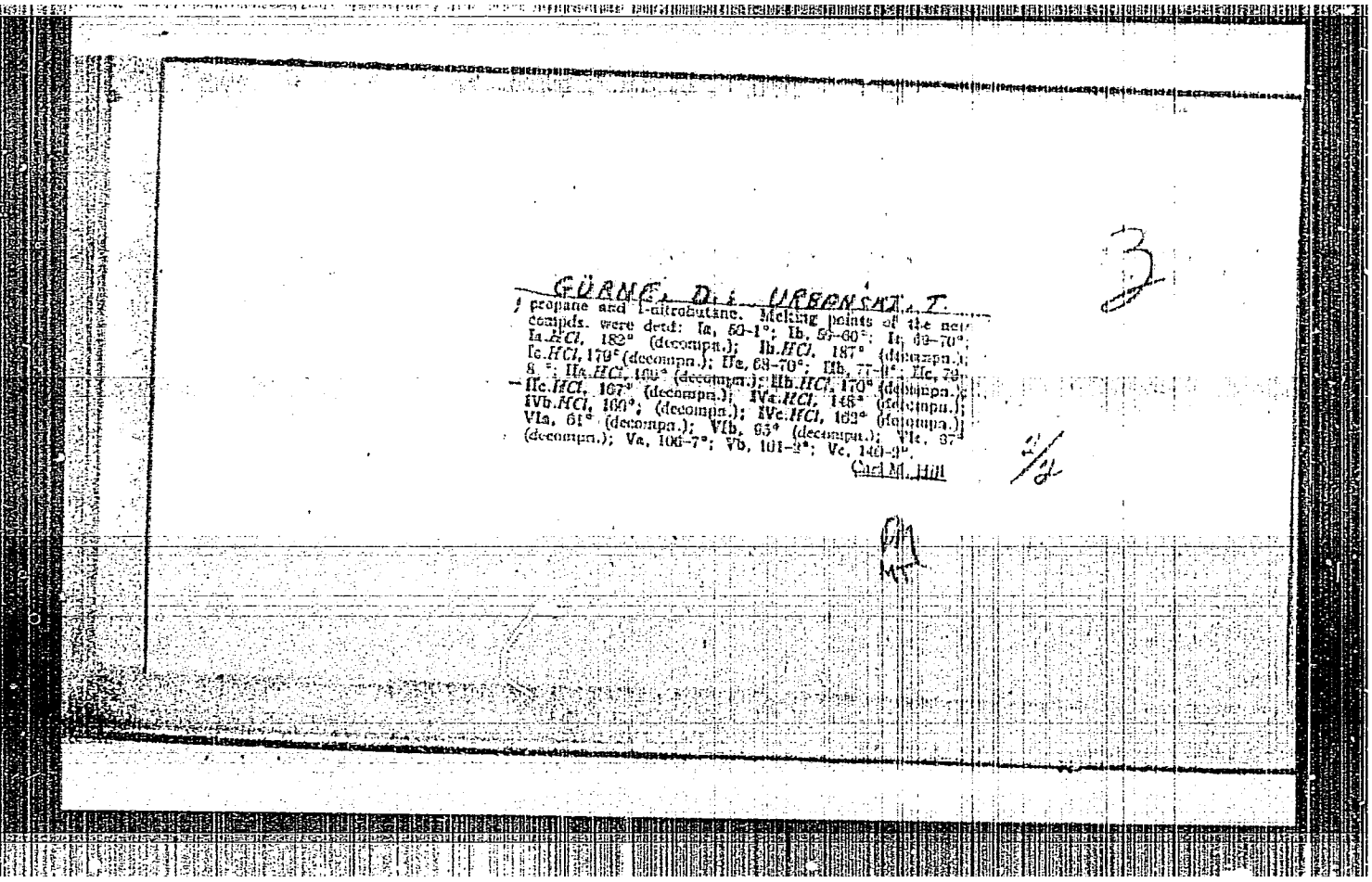
GURNE, D.

Synthesis and degradation of certain derivatives of [illegible]hydro-1,3-oxazine. H. D. Gurne and T. Urbański. Bull. acad. polon. sci., [illegible] 221 (1956) (in Eng[illegible]). [illegible] 40, 1808. Several new [illegible] were synthesized from [illegible] nitro[illegible], formaldehyde, and cyclohexylamine. The [illegible] will be reported elsewhere. These compds. were subjected to degradation. Ia, Ib, Ic heated with [illegible] dild. with EtOH gave HOCH$_2$CR(NO$_2$)CH$_2$N[illegible] C_6H_{11} (IIa), (IIb), (IIc), resp., and HCHO (1 mole). IIa, IIb, IIc warmed with HCHO yielded Ia, Ib, Ic. IIa, IIb, IIc treated with MeONa in MeOH yielded HCHO (1 mole) and NaCR(NO$_2$)CH$_2$NHC$_6$H$_{11}$ (IIIa), (IIIb), (IIIc), resp., which were converted to the respective hydrochlorides of CHR(NO$_2$)CH$_2$NHC$_6$H$_{11}$ (IVa), (IVb), (IVc) by alc. HCl. IVa, IVb, IVc warmed with HCHO (2 moles) in presence of NaHCO$_3$ have Ia, Ib, Ic. IIa, IIb, IIc were identified by [illegible] and by their N,O-dibenzoyl derivs. Va, Vb [illegible] IVa, IVb, IVc by their N-nitroso derivs. CHR(NO$_2$) [illegible] VIa, VIb, VIc. IIb and [illegible] were also prepd. by action of cyclohexylamine [illegible] on the corresponding diols. Reaction of Me(NO$_2$)C(CH$_2$OH)$_2$ with cyclohexylamine at room temp. or 0° gave 1,3-dicyclohexyl-5-nitro-5-methylhexahydropyrimidine (VII) [illegible] obtained by action of cyclohexylamine on [illegible] [illegible] hydroxymethyl[illegible] [illegible] with N-nitroso [illegible] [illegible] IIa, IVb and IVc were [illegible] [illegible]

3

1/2

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000617510004-7"



GÜRNE, D.; URBAŃSKI, T.

propane and 1-nitrobutane. Melting points of the new compds. were det.: Ia, 60–1°; Ib, 59–60°; Ic, 69–70°; Ia.*HCl*, 182° (decompn.); Ib.*HCl*, 187° (decompn.); Ic.*HCl*, 170° (decompn.); IIa, 68–70°; IIb, 77–8°; IIc, 79–8 °; IIa.*HCl*, 180° (decompn.); IIb.*HCl*, 170° (decompn.); IIc.*HCl*, 167° (decompn.); IVa.*HCl*, 146° (decompn.); IVb.*HCl*, 160°; (decompn.); IVc.*HCl*, 169° (decompn.); VIa, 61° (decompn.); VIb, 65° (decompn.); VIc, 87° (decompn.); Va, 106–7°; Vb, 101–2°; Vc, 140–2°.

Carl M. Hill

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27502

Author : Guerne, D. and Urbanski, T.
Inst : Not given
Title : Aliphatic Nitro Compounds. XXXII. Synthesis and Cleavage of 3-benzyl-3Substituted Tetrahydro-1,3-Oxazines

Orig Pub: Roczniki Chem, 31, No 31, 855-867 (1957) (in Polish with English and Russian summaries)

Abstract: The reaction of $C_6H_5CH_2NH_2$ (I) and CH_2O (II) with $C_2H_5NO_2$ (III), $C_3H_7NO_2$ (IV), or $C_4H_9NO_2$ (V) has been used to prepare compounds of the type $OCH_2N(CH_2C_6H_5CH_2C(R)(NO_2)CH_2$ [sic] (VI), where R = CH_3 (VIa), C_2H_5 (VIb), or C_3H_7 (VIc); the previously synthesized VI (R = CH_2OH) (VId)

Card 1/7

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27502

Abstract: and VI (R = H) (VIe) (See Communication XXXI, RZhKhim, 1959, 19353) were also prepared in the above-described way. VI on hydrolysis lose 1 mole of II and are converted to aminonitroalcohola, $C_6H_5CH_2NHCH_2C(R)(NO_2)CH_2OH$ (VII). When VII are heated with II in the presence of $NaHCO_3$ VI are regenerated. The action of CH_3ONa (VIII) on VII results in the elimination of 1 mole II and gives Naederivatives of aminonitrocompounds of the type $C_6H_5CH_2NHCH_2Na$-$(R)NO_2$ (IX) which are converted to $C_6H_5CH_2NHCH_2CH(R)NO_2$ (X) by acids and by CO_2. When X are heated with II in 50% alcohol in the presence of $NaHCO_3$ (pH 7.5), VI are regenerated. VII (R = CH_2OH), prepared

Card 2/7

108

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27502

Abstract: from VId, when reacted with VIII loses 2 mols II and is converted to X (R = H) (Xa). Xz adds 3 mols II and changes into VId. VId on reaction with VIII gives VIe, which on treatment with II and HCl cleaves to give X (R = CH_2OH)(Xb). Xb is converted to Xa by the action of VIII, losing 1 mole II. 0.1 mol of $(CH_2OH)_2C(R)NO_2$ (XI) at ~20° is treated with 0.15 mol 30% II, 0.5 gm $NaHCO_3$, and 0.1 mol I, the mixture is heated for 2 hrs at 60°, and VI is obtained (R, the yield in %, mp in °C, and mp of the hydrochloride (HC) in °C are given in that order): CH_3, 65, 66-68, 196-198; C_2H_5, 58, 68-70, 198-200; C_3H_7, 55, 46-48, 175-178. One gm of the HC or of free base VI is refluxed for 15 hrs in 50 ml conc H_2SO_4 or in

Card 3/7

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27502

Abstract: 15% HCl) (alternatively, the refluxing may be stopped after 7-8 hrs) and evaporated under vacuum; the HC of the corresponding VII is isolated from the residue. One gm of VI in 100 ml 80% alcohol is treated with 4 ml conc HCl, the solution is refluxed 2 hrs, and the solvent is distilled off under reduced pressure; the following HC of VII were obtained by this procedure (R, the mp in °C, and the mp in °C of the dibenzoyl (for VII prepared from VIa-c) or the diacetyl or triacetyl derivative (for VII prepared from VId and VIe) are listed in that order): CH_3, 102-104, 112-114; C_2H_5, 150-152, 105-107; C_3H_7, 135-137, 90-92; H, 150 (decomp), 115-118;

Card 4/7

- 109 -

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27502

Abstract: CH_2OH, 177 (decomp), 98-100. 5 mmols of the HC of VII in 3 ml 30% alcohol, 8 mmols 27% II, and 0.01 mol $NaHCO_3$ are heated for some time at ~ 100°; VI is obtained. One gm of the HC of VII in 200 ml ether is treated with a calculated amount of 2% VIII and the solution is filtered; the filtrate yields LX having no definite mp. One gm IX in aqueous solution on treatment with CO_2 or 2-HOC_6H_4COOH gives X (ether extraction); the following X have been prepared in this way (R, the mp in °C of the HC of X, and the mp in °C of the tosyl derivative of X are listed in that order): CH_3, 148-150, 82-84; C_2H_5, 150-151; 88-89; C_3H_7, 152-154, 110-112; HC of Xa mp 147°

Card 5/7

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27502

Abstract: (decomp), acetyl derivative mp 193-195°. 0.01 mol XI in 3 ml water is treated with a stoichiometric amount of I and the mixture is heated to 50°; a solution of the organic layer in acetone is treated with an ether solution of HCl (gas); the HC of VII is obtained, yield 30-50%. 0.02 mol $C_6H_5CH_2NHCH_2OH$ in 20 ml alcohol and 10 ml water is treated with 0.02 mol of III, IV, or V, the solution is heated to 60°, after 24 hrs the organic layer is separated, the aqueous layer is evaporated under vacuum, the residue is extracted with ether, the organic layer is added to the extract, and the HC of X is isolated from the solution, yield 20-50%. 0.01 mol $CH_3CH(NO_2)$-$-CH_2OH$ or $C_2H_5CH(NO_2)CH_2OH$ in 15 ml of a 1:2

Card 6/7

110

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27502

Abstract: water-alcohol mixture are gradually treated with 0.01 mol I, the solution is heated to 50°, allowed to stand for a few hours, and processed as above; the yield of HC of X is about 30%.-- V. Skorodumov

Card 7/7

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27503

Author : Guerne, D. and Urbanski, T.
Inst : Not given
Title : Aliphatic Nitro Compounds. XXXIII. Synthesis and Cleavage of 3-Cyclohexyl-Derivatives of Tetrahydro-1,3-Oxazine

Orig Pub: Roczniki Chem, 31, No 3, 869-878 (1957) (in Polish with English and Russian summaries)

Abstract: Continuing work reported earlier, the authors have synthesized a number of 5-nitro-5-R-3-cyclohexyltetrahydro-1,3-oxazines (Ia-c, where $R_a = CH_3$, $R_b = C_2H_5$, and $R_c = C_3H_7$) and have investigated their hydrolysis. The synthesis of I is achieved by reacting $C_6H_{11}NH_2$ (II) with

Card 1/6

///

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27503

Abstract: $(HOCH_2)_2C(R)NO_2$ (IIIa-c) in 30% CH_2O (IV). The hydrolysis of I with aqueous-alcoholic HCl leads to the elimination of CH_2O and the formation of $C_6H_{11}NHCH_2CH(R)NO_2$ (Va-c). The action of IV on V regenerates the I. When V is reacted with CH_3-ONa (VI), IV is eliminated and the Na salt of the aminonitro compound is formed; treatment of these products with HCl gives $C_6H_{11}NHCH_2CH(R)$-NO_2 (VII a-c). The action of IV on VI reconverts the latter to I. The nitrosoamines, $C_6H_{11}N(NO)$-$CH_2CH(R)NO_2$ (VIIIa-c) are converted back to the VII with HCl. V is synthesized by the action of II on III or from $HOCH_2NHC_6H_{11}$ (IX) with

Card 2/6

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27503

Abstract: $CH_3CH(NO_2)CH_2OH$ (X). The reaction of IX with RCH_2NO_2 leads to the synthesis of the HC of VII. 0.1 mol III is treated with 0.15 mol IV, 0.5 gm $NaHCO_3$, and 0.1 mol II; at the termination of the exothermic reaction the solution is heated for 3 hrs at 60-65° and the resinous mass is washed with water; I are obtained (the product, yield in %, mp in °C (from alc), and the mp in °C of the hydrochloride (HC) are listed in that order): Ia, ~30, 50-51, 182 (decomp); b, 55, 59-60, 187 (decomp); c, 60, 69-70, 179 (decomp). 2 gms of I in 200 ml 80% alcohol are treated with 10 ml conc HCl, the solution is heated to boiling, and the solvent is distilled off, the last part of

Card 3/6

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27503

Abstract: the distillation being carried out under vacuum; the HC of V is obtained. One gm of the HC of V in 15 ml water is treated with a calculated amount of NaHCO, and V is isolated (the product, mp in °C (from alc), and the mp in °C (from 3:1 alc-acetone) of the HC and of the dibenzoyl derivative (from aqueous alc) are listed in that order): a, 68-70, 169(decomp); 106-107; b, 77-79, 170 (decomp), 101-102; c, 79-81, 167 (decomp), 140-142. One gm of V is treated with a calculated amount of 2% VI and then with an excess of alcoholic HCl at 0°, the solvent is distilled off under vaccum in the cold, and the HC of VII is isolated (the product and the mp in °C (decomp) are given): VIIa, 148; VIIb, 160;

Card 4/6

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27503

Abstract: VIIc, 162. 0.5 gm of the HC of VII is treated with a small quantity of water and a calculated amount of $NaHCO_3$, is added; VIII is separated (crystallization from ether) (the product and mp in °C (decomp) are given): VIIIa, 61-63; b, 95-97; c, 97-99. The action of 1 ml conc HCl on 0.1 gm VIII liberates NO_2; evaporation to dryness yields the HC of VIII. 5 mmols VII in 50% alc are treated with 15 mmols IV, the solution is made alkaline with $NaHCO_3$, and allowed to stand a few days; I is obtained. 0.03 mol IIIa or IIIb is treated with 2 ml CH_3OH or dioxane, 0.03 mol II is added, and the solution is allowed to stand a few days at ~20°; Vb or Vc is

Card 5/6

113

POLAND / Organic Chemistry--Synthetic Organic Chemistry G-2

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27503

Abstract: obtained, yield 80-90%. 0.01 mol X in CH_3OH is treated with a calculated amount of IX and the solution is allowed to stand in the cold for a few hours; Va is obtained, yield ~20° [sic]. 0.05 mol IX and 0.05 mol nitroparaffin in 5 ml dioxane are allowed to stand for several hrs at ~20°, the solvent is evaporated, the residue is dissolved in acetone, and alcoholic HCl is added; the HC of VII is obtained in yields of ~80-85%. -- V. Skorodumov

Card 6/6

SLOPEK,S.; MORDARSKA,H.; MORDARSKI,M.; URBANSKI,T.; GURNE,D.

On antineoplastic activity of some 1,3-oxazine derivatives in vitro. Bul Ac Pol chim. 6 no.6:361-363 '58. (EEAI 9:6)

1. Institute of Immunology and Experimental Therapy (Wroclaw), Polish Academy of Sciences. Institute of Organic Synthesis (Warsaw), Polish Academy of Sciences. Institute of Tuberculosis, Warsaw. Presented by T.Urbanski.

(Oxazine) (Antigens and antibodies)
(Tumors) (Cells)

URBANSK, Tadeusz; BELZECKI, Czeslaw; CHECHELSKA, Bozena; CHYLINSKA, Barbara; DABROWSKA, Halina; FALECKI, Jerzy; GURNE, Daniela; HALSKI, Leszek; MALINOWSKI, Stanislaw; SERAFINOWA, Barbara; ZYLEWSKI, Jerzy; SLOPEK, Stefan; KAMIENSKA, Irena; VERNULET, Jan; JANOWIEC, Mieczyslaw; JAKIMOWSKA, Krystyna; URBANSKA, Alicja; KUZNIEWICOW, Anatol

Searching for new anti-tuberculosis drugs. Gruzlica 26 no.11:889-917 Nov 58.

1. Z Zakladu Syntezy Lekow Instytutu Gruzlicy Kierownik Zakladu: prof. dr T. Urbanski Dyrektor Instytutu: prof. dr J. Misiewicz Pracownia Synt. Lekow Przeciwgruzlicych, Warszawa, ul. Koszykowa 75.

(TUBERCULOSIS, therapy,
investigation of 300 cpds. for anti-tuberc. eff. (Pol))

GURNE, D.

The stereochemistry of some tetrahydro-1,3-oxazine derivatives. D. Gürne and T. Urbański (Polish Acad. Sci., Warsaw). *J. Chem. Soc.* 1959, 1012–13; cf. *C.A.* 42, 1756i.—Dipole moments of five 5-alkyl derivs. of tetrahydro-3-cyclohexyl-5-nitro-1,3-oxazine (I) indicated that the ring is in the chair form with the nitro and cyclohexyl groups in the axial and equatorial conformation, resp. $NaHCO_3$ (0.5 g.) and 0.9 g. cyclohexylamine added dropwise to 16.3 g. $Me_2CHC(NO_2)(CH_2OH)_2$ (prepd. from $Me_2CHCH_2NO_2$ and H_2CO) and the mixt. stirred 3 hrs. at 60–5° gave 33% 5-isopropyl deriv. of I, m. 55–7° (EtOH). 5-Butyl deriv. of I, m. 57–9° (EtOH), was obtained similarly in 53% yield from $BuC(NO_2)(CH_2OH)_2$ (prepd. from $BuCH_2NO_2$). Dipole moments in benzene for 5-alkyl derivs. of I were (substituent given): Me, 4.45; Et, 4.42; Pr, 4.41; iso-Pr, 4.56; Bu, 4.40 D. The calcd. value for the proposed conformation is 4.37 D., whereas those for the other possible conformations are considerably lower. R. H. Loeppert

GURNE, Daniela; URBANSKI, Tadeusz

Reactions of aliphatic nitro compounds. XLIV. Conformation analysis of the derivatives of 5-nitro-5-alkylo-3-cyclohexyletetrahydro-1,3-oxazine. Rocz chemii 34 no.3/4:881-886 '60. (EEAI 10:3)

1. Zaklad Syntezy Organicznej Polskiej Akademii Naui, Warszawa.
(Nitro group) (Alkyl groups)
(Cyclohexyltetrahydrooxazine)

SURNAME, Given Names

6

Country: Poland

Academic Degrees: [illegible]

Affiliation:

Source: Warsaw, Postepy Higieny i Medycyny Doswiadczalnej, Vol XV, No 4, 1961, pp 427-428.

Data: "Antineoplastic Properties of Derivatives of Oxazine."

English abstract of article originally published in Nature, 1960, 187, 426.

Authors:
URBANSKI, T.
SLOPEK, Stefan, Prof. Dr., Director of the Ludwik Hirszfeld Insti of Immunology and Experimental Therapy (Instytut Immunologii i Terapii Doswiadczalnej im. Ludwika Hirszfelda), Polish Academy Sciences (PAN--Polska Akademia Nauk), Wroclaw.
GURNE, D.
MORDARSKA, H.
CHYLINSKA, B.
MORDARSKI, M.

GPO 981643

BENSON, Mikhail Il'ich, inzh.; BEREZIN, Nikolay Tikhonovich, inzh.; GURNI, Varvara Pavlovna, kand. tekhn.nauk; LYUBOVSKIY, Grigoriy Abramovich, inzh.; MARTIROSYAN, Yelena Mikirtychevna; PROKOROVICH, Anna Lazarevna, kand. tekhn. nauk; SIMONOVA, Irina Mikhaylovna, inzh.; YEFREMOVA, M.K., red.; GOLOVINA, N.Z., red.; AKSEL'ROD, I.Sh., tekhn. red.

[English-Russian dictionary of the food industry] Anglo-russkii slovar' po pishchevoi promyshlennosti. Moskva, Fizmatgiz, 1963. 570 p. (MIRA 17:1)

GURNIK, A.

Organizational structure of the planning offices in the Soviet food industry.

PJ54 (Przemsl Spozywczy. Vol. 10, no. 4, Apr. 1956, Warszawa, Poland)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

GURNIK, A.

The organization of machinery design offices in the Soviet Union. p 315. (Przemysl Spozywczy, Vol. 10, No. 8, Aug, 1956. Krakow, Poland)

SO: Monthly List of East European Accessions (EEAI) LC. Vol. 6, No. 8, Aug. 1957. Uncl.

GURNIK, G.

Instruments and methods of observations at Station No.154 in Poland. Biul.sta.opt.nabl.isk.sput.Zem. no.28:10-11 '62. (MIRA 15:12)

1. Astronomicheskaya observatoriya Universiteta im. Adama Mitskevicha, Poznan'.
(Artificial satellites—Tracking)

GURNITSKIY, B.; BOZHKOVA, K.

Problem of the study of permetion of some drugs through the hemato-encephalic barrier in purulent meningitis. Pediatriia 37 no.12:35-39 D '59. (MIRA 13:5)

1. Iz kafedry pediatrii (zav. - prof. B. Gurnitskiy) Meditsinskoy akademii v Shchetsine.
(MENINGITIS pharmacol.)
(HEMATO-ENCEPHALIC BARRIER pharmacol.)

ACCESSION NR: AR4028476 S/0275/64/000/002/B027/B027

SOURCE: Referativny*y zhurnal. Elektronika i yeye primeneniye. Svodny*y tom, Abs. 2B176

AUTHORS: Gurnitskiy, M. F.; Damrina, V. M.

TITLE: Technology of manufacture of high-power semiconductor thermoresistances

CITED SOURCE: Sb. nauchn. tr. Rostovsk.-n/D. in-ta inzh. zh.-d. transp., vy*p. 38, 1963, 15-26

TOPIC TAGS: thermoresistance, semiconductor thermoresistance, high power thermoresistance, production technology, copper oxide, manganese oxide, molded thermoresistance, binder, wetting agent

TRANSLATION: The high-power thermoresistance (TR) comprises a rectangular parallelpiped measuring 31 x 31 x 10 mm, with 143 holes

Card 1/3

ACCESSION NR: AR4028476

of 1.5 mm diameter arranged in checkerboard fashion on its large face. The material is a composition consisting of 70% CuO_2 and 30% Mn_3O_4. Its advantages are low cost and the fact that there is no need for crushing the material, since both oxides come in the form of fine powders; in addition, they can be easily wetted by different liquids, easily compressed, and sintered. The molding of the TR is by dry pressing. Proper preparation of the mixture of the initial materials so as to ensure chemical and granulometric homogeneity of the material is of great importance. For this purpose, a special mixer has been developed. The binding liquid may be water, kerosene, paraffin, starch, glycerine, and particularly polyvinyl alcohol and oleinic acid, which have properties of surface-active substances. The use of oleinic acid has led to a 10% reduction in the porosity of the TR without increasing the molding pressure. The drying conditions depend on the composition of the charge and on the amount of binder. For a composition of 30% Mn_3O_4 and 70% Cu_2O to which 2.5%

Card 2/3

ACCESSION NR: AR4028476

oleinic acid by weight is added, the drying time is 48 hours at 105°C followed by 16 hours at 190°C. The temperature is increased at a rate of 20°C per hour. Annealing is at 1070°C; to improve this process, 1% of $Cu(NO_3)_2$ and 20% of crushed scrapped specimens are added to the initial mixture. Bibliography, 10 titles. N. S.

DATE ACQ: 31Mar64 SUB CODE: SD ENCL: 00

Card 3/3

GURNITS'KIY, P.V. [Hurnyts'kyi, P.V.], kand. tekhn.nauk

Reaper for harvesting pulse crops. Mekh. sil'. hosp. 9 no. 7:15-16 Jl '58. (MIRA 11:8)

(Legumes--Harvesting)

GURNITSKIY, P.V. [Hurnyts'kyi, P.V.], kand.tekhn.nauk; KOLODYAZHNYY, M.T., nauchnyy rabotnik

Conveyeor for removing manure. Mekh. sil'. hosp. 9 no.10: 6-7 O '58. (MIRA 11:10)

1. Poltavskaya oblastnaya opytnaya stantsiya (for Kolodyazhnyi). (Farm manure--Transportation) (Conveying machinery)

GURNITSKIY, P.V. [Hurnyts'kyi, P.V.], kand.tekhn.nauk

Mechanization of hop harvesting in England. Mekh. sil'. hosp. 9 no.10:30-31 O '58. (MIRA 11:10)
(Great Britain--Hops--Harvesting)

GURNITSKIY, P.V. [Hurnyts'kyi, P.V.], kand.tekhn.nauk; KROKHMAL', K., inzh.

Protecting water pipes from corrosion. Mekh.sil'.hosp. 11 no.1: 31 Ja '60. (MIRA 13:4)
(Water pipes) (Corrosion and anticorrosives)

L 07526-67 EWP(k)/EWP(h)/EWT(d)/EWP(l)/EWP(v)

ACC NR: AR6028111 SOURCE CODE: UR/0372/66/000/005/V045/V046

AUTHOR: Gurnov, A. V.

31
B

TITLE: Maximum response speed of a linear operating unit

SOURCE: Ref. zh. Kibernetika, Abs. 5V324

REF SOURCE: Sb. Metody matem. modelir. i teoriya elektr. tsepey. Vyp. 6. Kiyev, 1965, 92-116

TOPIC TAGS: linear automatic control, automatic control theory, optimal automatic control, arithmetic unit

ABSTRACT: The report defines optimal patterns of the amplitude-frequency response of an operating amplifier in various types of units, as well as the dependence of minimal solution periods on the pass band of the operating unit. The author discusses dependence of maximum response speed on accuracy in performing mathematical operations. The problem is solved by recourse to theories of automatic control and spectral analysis. Basic specifications are listed for an accumulator and an integrator constructed with an FE-11 amplifier. [Translation of abstract] 4 illustrations and bibliography of 5 titles. V. Starodubtsev

SUB CODE: 09,14

Card 1/1 gd UDC: 681.142.001

GURNOV, Boris Aleksandrovich; KONOVALOVA, Z., red.; VASIL'KOVA, Ye., tekhn. red.

[The little birch on the stone] Berezka na kamne. Moskva, Molodaia gvardiia, 1963. 142 p. (MIRA 17:1)

1. Korrespondent "Komsomol'skoy pravdy" v Germanskoy Demokraticheskoy Respubliki (for Gurnov).

GURNOV, Vasiliy Kuz'mich; DZYUBA, L.N., red.; KHOKHANOVSKAYA, T.I., tekhn. red.

[Integral calculus; textbook for correspondence courses] Integral'noe ischislenie; uchebnoe posobie dlia studentov-zaochnikov. Kiev, Izd-vo Kievskogo univ. 1961. 326 p. (MIRA 14:8)
(Calculus, Integral)

CHEREDNICHENKO, Ya.F. [Cherednychenko, IA.F.]; GURNOVICH, O.V. [Hurnovych, O.V.]

Semiautomatic machine for the coating and drying of adhesive films. Leh.prom. no. 4:9-11 O-D '63. (MIRA 17:5)